

KEEP AMERICA BEAUTIFUL

Research to Inform and Improve Recycling in the Workplace

COG Recycling Committee Meeting
May 21, 2015



Who We Are



Keep America Beautiful **inspires and educates** people to take action every day to **improve and beautify** their community environment.

We envision a country where every community is a **clean, green and beautiful** place to live.

We provide the **expertise, programs and resources** to help people:

- **Prevent litter;**
- **Reduce waste;**
- **Increase recycling; and**
- **Protect the natural beauty around us.**

Our collective action champions **environmentally healthy, socially connected and economically sound** communities.

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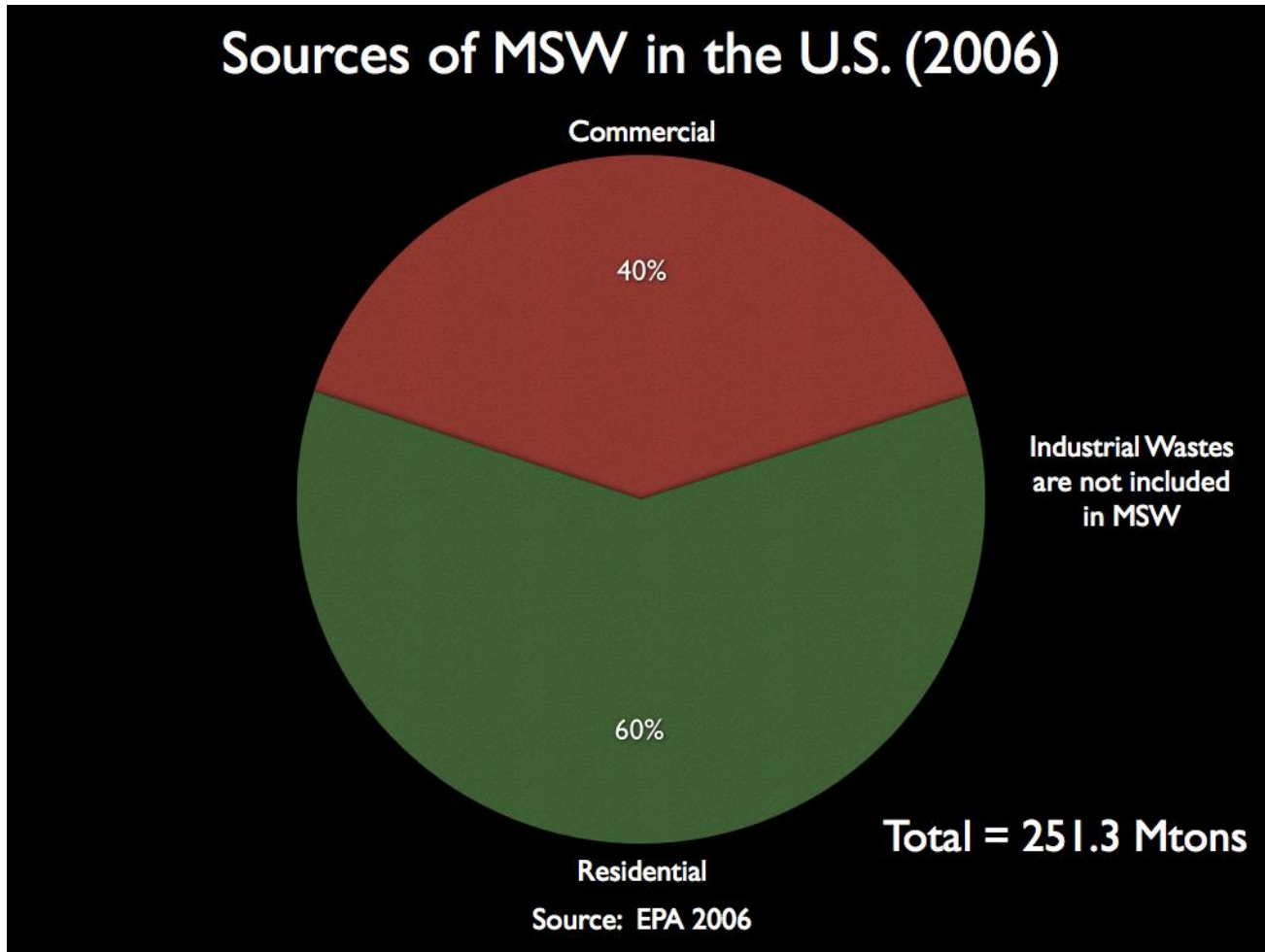
America Recycles: National Recycling Initiatives

Objective: Increase participation in recycling



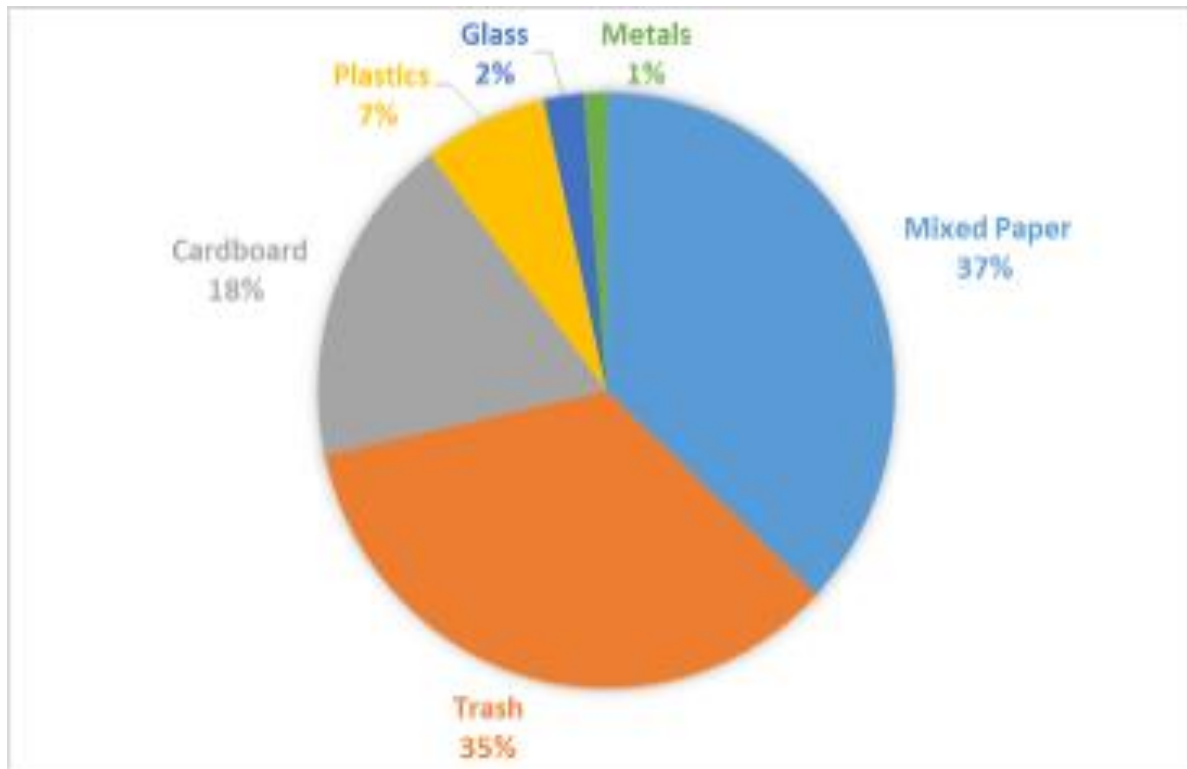
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Where MSW is Generated



Workplace Waste by Type

- Breakdown of Waste Stream in a Typical Office Building by Type*



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*Great Forest average waste audit results

Opportunity to Make a Difference

- 5.6 million commercial buildings in the U.S.
- Total over 87 billion square feet



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Source: The Commercial Building Energy Consumption Survey (CBECS), EIA

Project Goal

- Test the impact of recycling and trash bin configurations on recycling at work.
- Metrics
 - Increase recycling
 - Reduce trash in the recycling bins
 - Reduce recycling in the trash bins



Partners

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CBRE



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Poll

- Which desk-side bin set up do you think would be most successful at increasing accurate recycling?

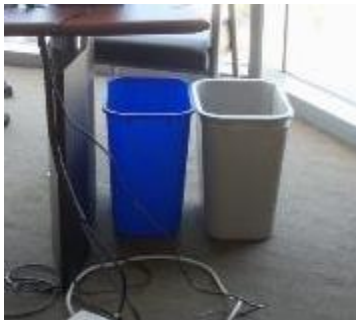
A.



B.



C.

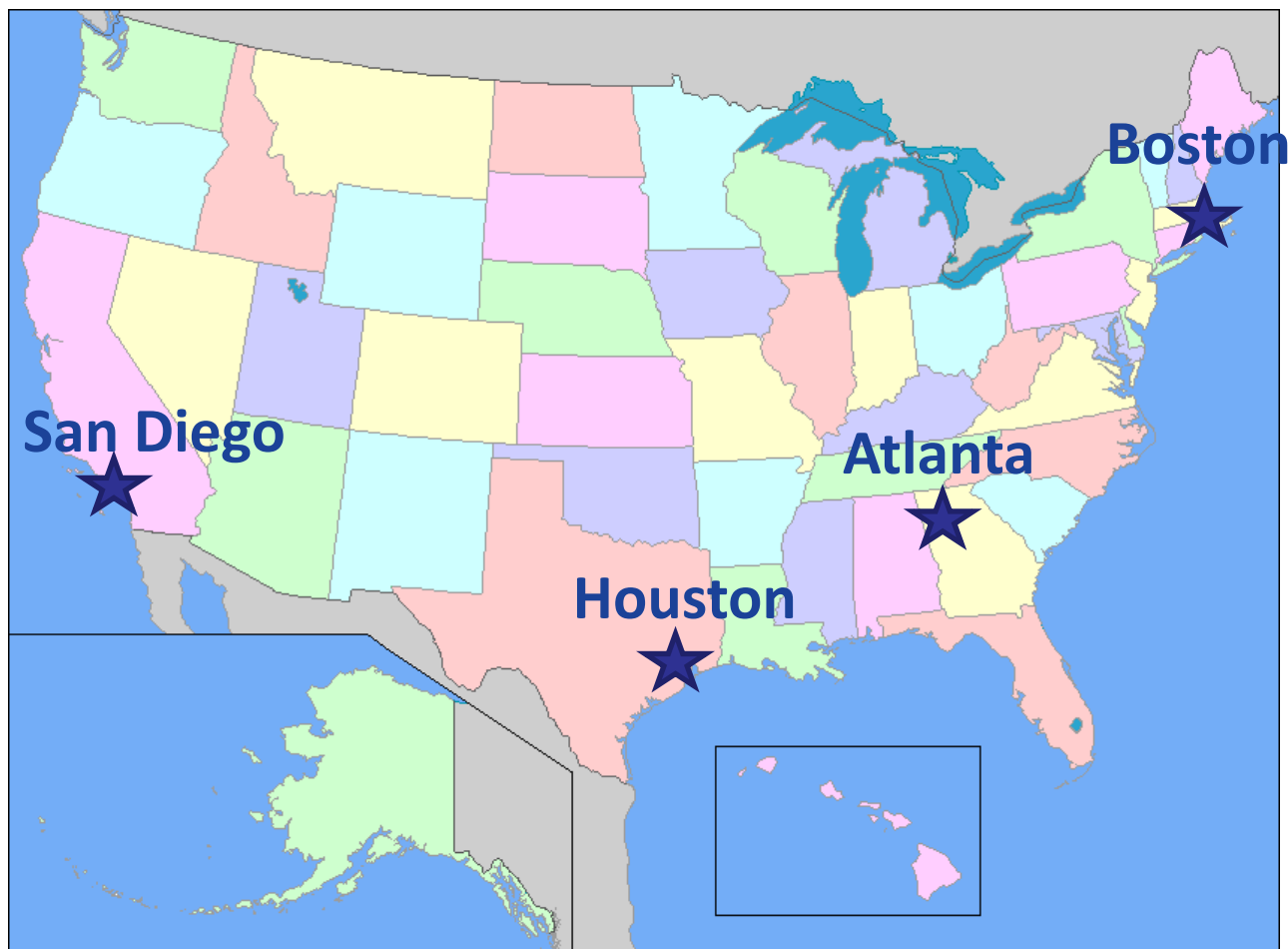


D.



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Participating Office Buildings



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CBRE Office Buildings

- All single stream (mixed recycling)
- Single buildings
 - ATL: Three building office park
- Desk-side recycling and trash
 - ATL: Desk-side recycling only
 - All faced implementation issues

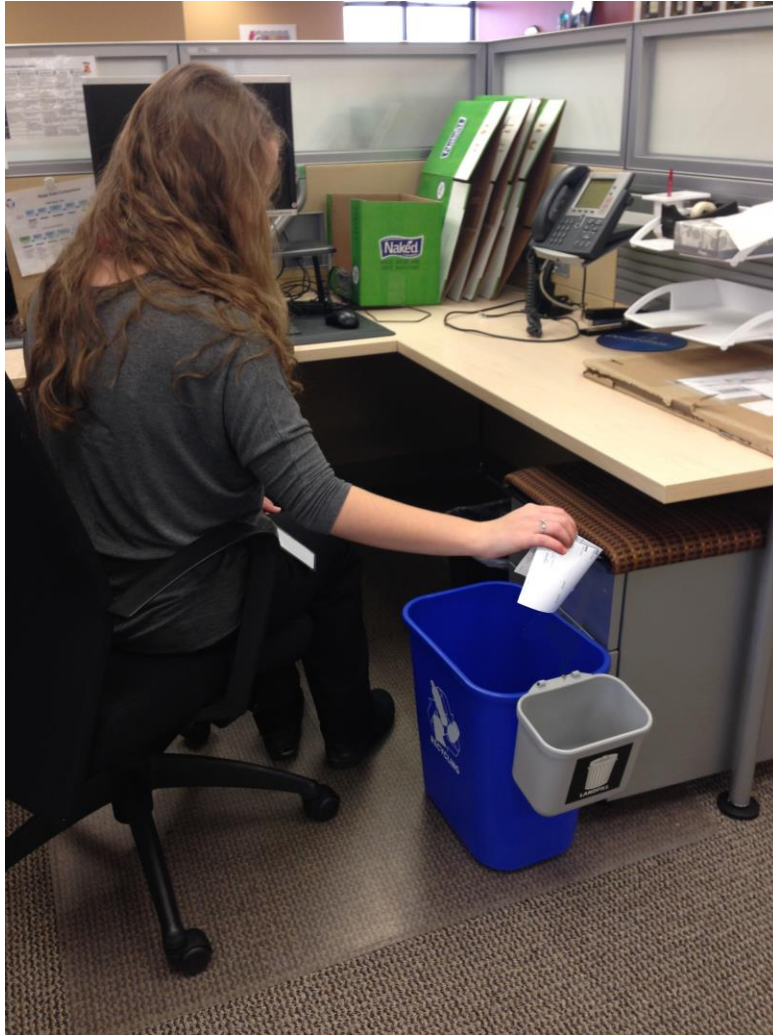


Offices

- 34 offices
 - Between 2 and 70 employees (average of 15)
 - One or two office contacts

	EQUAL-SIZE	RECYCLING ONLY	LITTLE TRASH	INFO ONLY	EXCLUDED (REFUSED)
ATLANTA	2	2	2	2	0
BOSTON	2	0	2	2	1
HOUSTON	1	0	0	1	1
SAN DIEGO	3	2	4	4	3

Little Trash



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Equal-size



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Recycling Only



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Information Only



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Common Area



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Informational flyer

- Color and logo consistent with bins
- Common office items
 - Realistic photos over stock images
 - Focus on priorities instead of messaging on everything



The flyer is divided into two vertical panels. The left panel has a blue background and is titled 'RECYCLING'. It features a white recycling symbol at the top containing a plastic bottle, a paper cup, and a can. Below the symbol, the word 'RECYCLING' is written in white capital letters. The text below reads: 'These are some common recyclable items in your office. Please put these items in a *recycling* bin:'. It lists five categories with corresponding photos: Office Paper, Plastic Beverage Bottles, Aluminum Beverage Cans, Frozen Dinner Boxes, and Soup Cans. The right panel has a grey background and is titled 'LANDFILL'. It features a white trash can icon at the top. Below the icon, the word 'LANDFILL' is written in white capital letters. The text below reads: 'These are some common non-recyclable items in your office. Please put these items in a *landfill* bin:'. It lists five categories with corresponding photos: Food Scraps, Bubble Wrap, Plastic Eating Utensils, Used Paper Plates, and Paper Towels.

RECYCLING

These are some common recyclable items in your office.
Please put these items in a *recycling* bin:

- Office Paper
- Plastic Beverage Bottles
- Aluminum Beverage Cans
- Frozen Dinner Boxes
- Soup Cans

LANDFILL

These are some common non-recyclable items in your office.
Please put these items in a *landfill* bin:

- Food Scraps
- Bubble Wrap
- Plastic Eating Utensils
- Used Paper Plates
- Paper Towels

**Please note that these are some common items. For a more comprehensive list of recyclable and non-recyclable items see your building manager, or your waste hauler's website.

Recycling Bin Signage

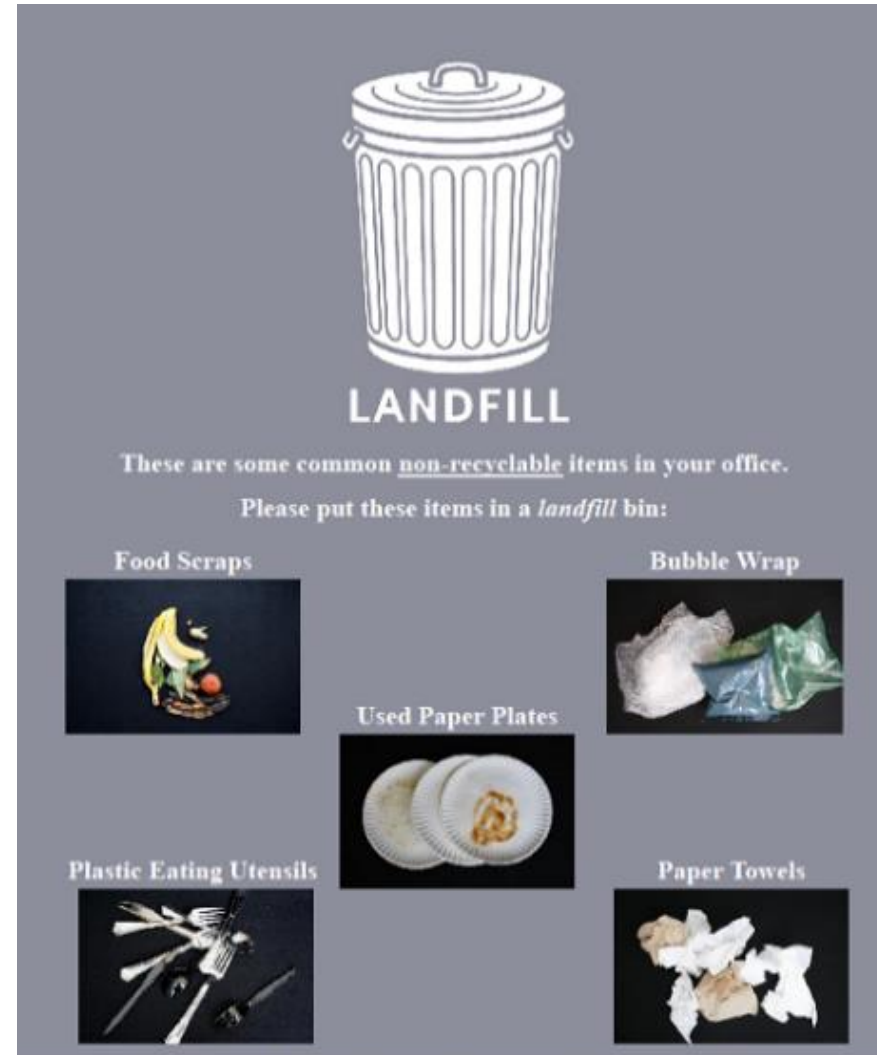
- Color and logo on bins
- Same items
 - Realistic photos over stock images
 - Focus on priorities instead of messaging on everything



**Please note that these are some common items. For a more comprehensive list of recyclable and non-recyclable items see your building manager, or your waste hauler's website.

Trash Bin Signage

- Color and logo on bins
- Same items
 - Realistic photos over stock images
 - Focus on priorities instead of messaging on everything



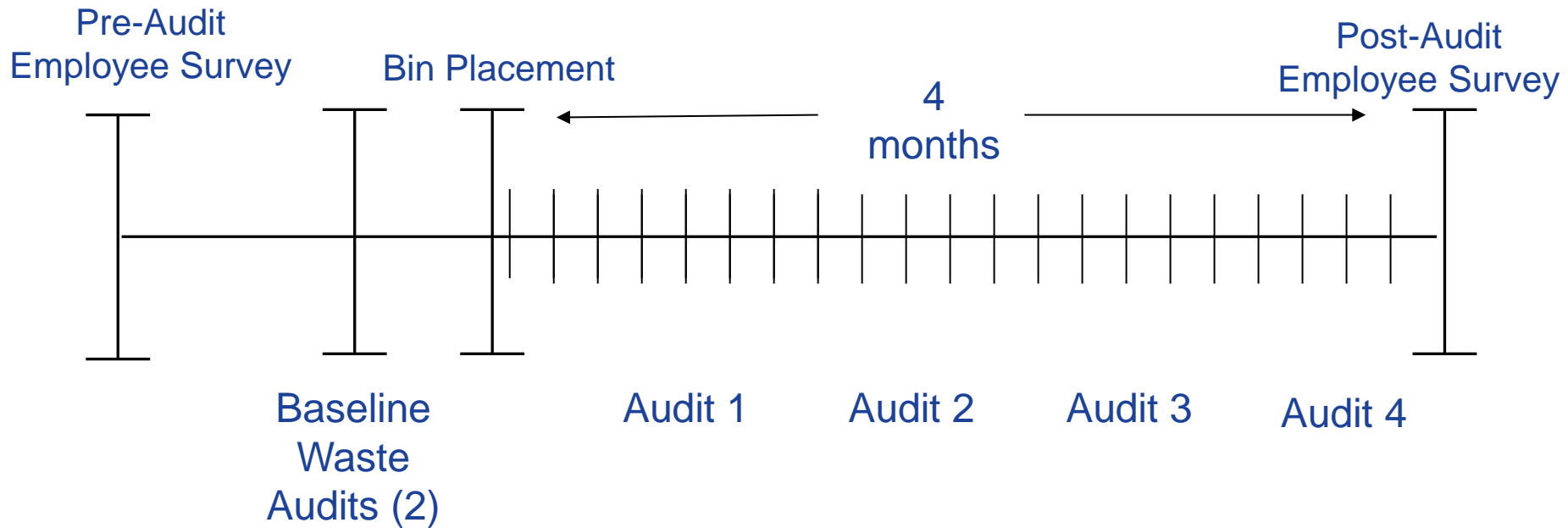
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Data Collection



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Timeline of Major Activities



Employee Survey

*Pre-Audit
Web
Survey*

Pre-Notification
Email

Survey Link Email

Reminder Email,
Note, and
Coupon

*Post-Audit
Web
Survey*

Pre-Notification
Email

Survey Link Email

Reminder Email,
Note, and
Coupon

Employee Survey Topics

- Office Recycling
 - General Knowledge, Behavior, and Beliefs
 - Knowledge, Behavior, and Beliefs about Flyer Items
- Spillover to home and public
- Evaluation of the Project (post-survey only)
- Classification Questions



Monthly Waste Audit

- Total Weight
- Weight of Flyer Items
- Count of Cans and Bottles



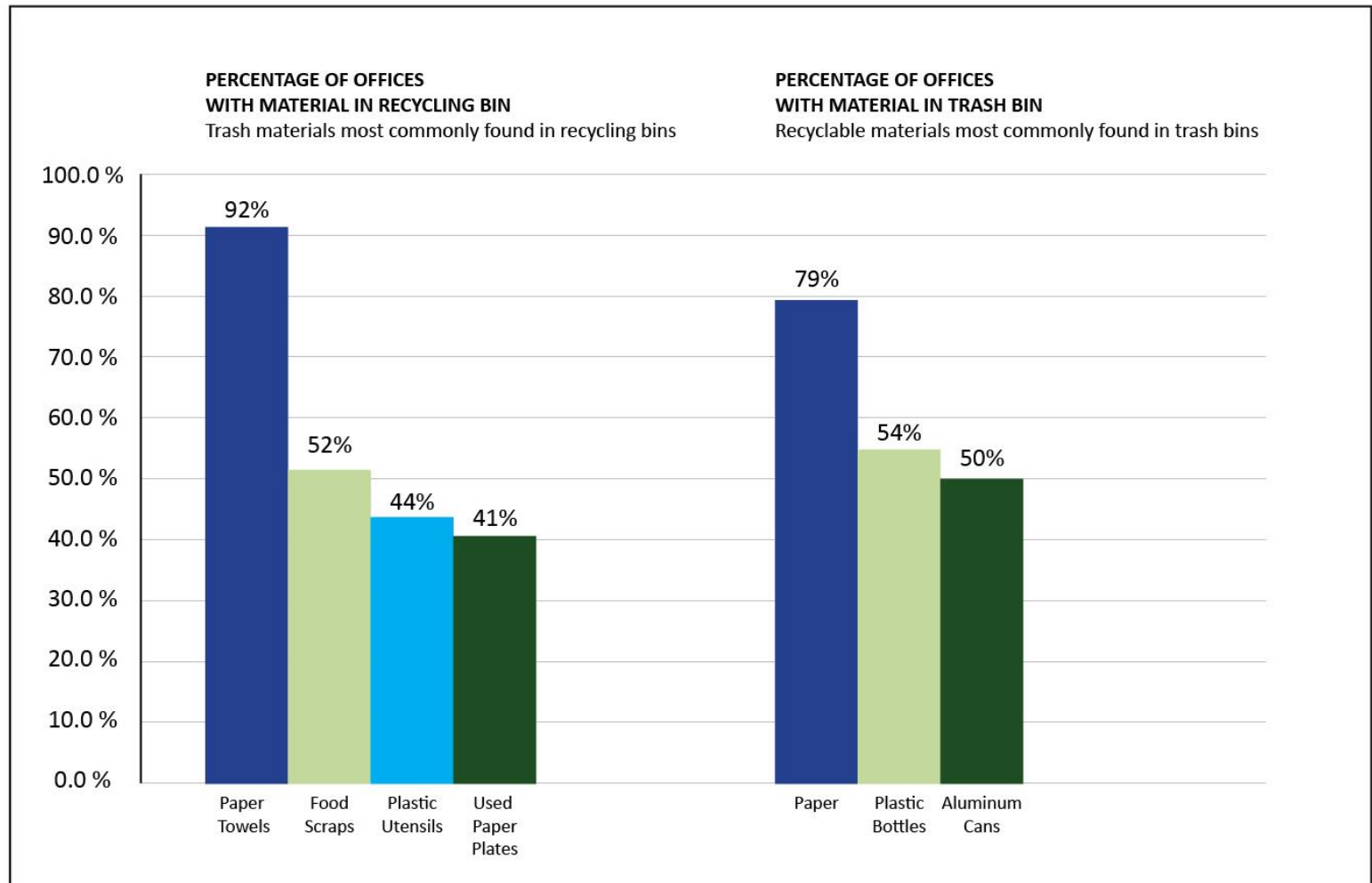
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Results



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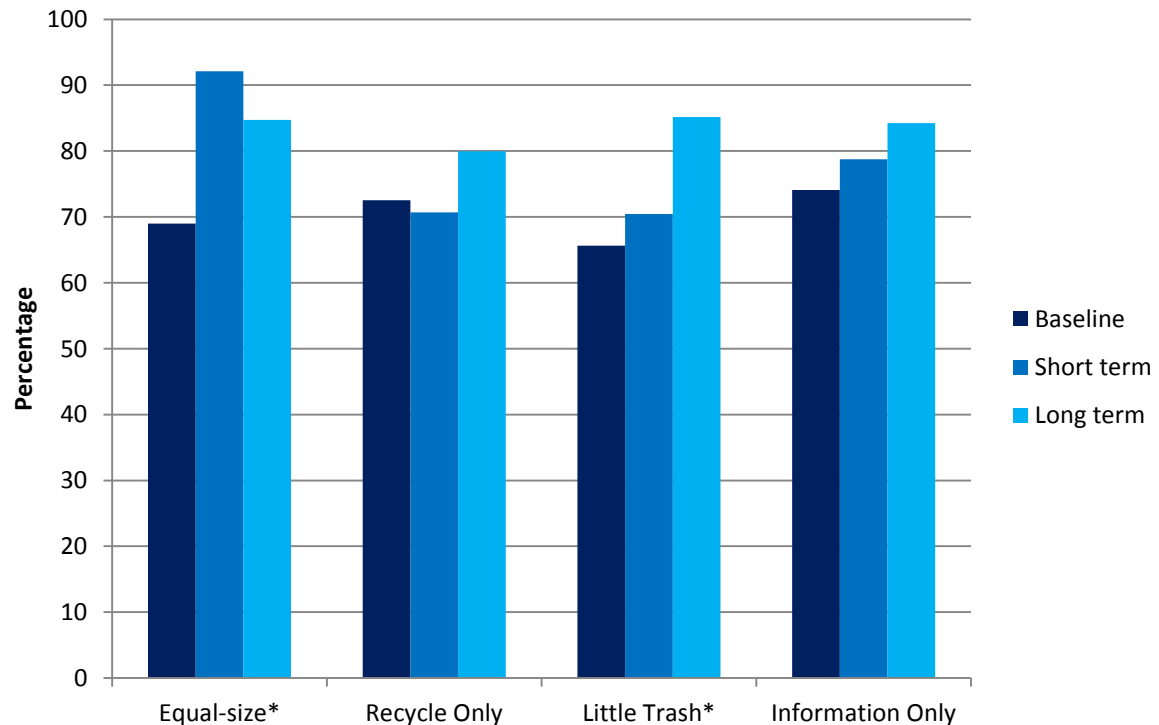
Frequency of Incorrect Disposal



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Percentage of Recyclables in Recycling

More recyclables were in the recycling for the “Little trash” and “Equal Size” conditions.

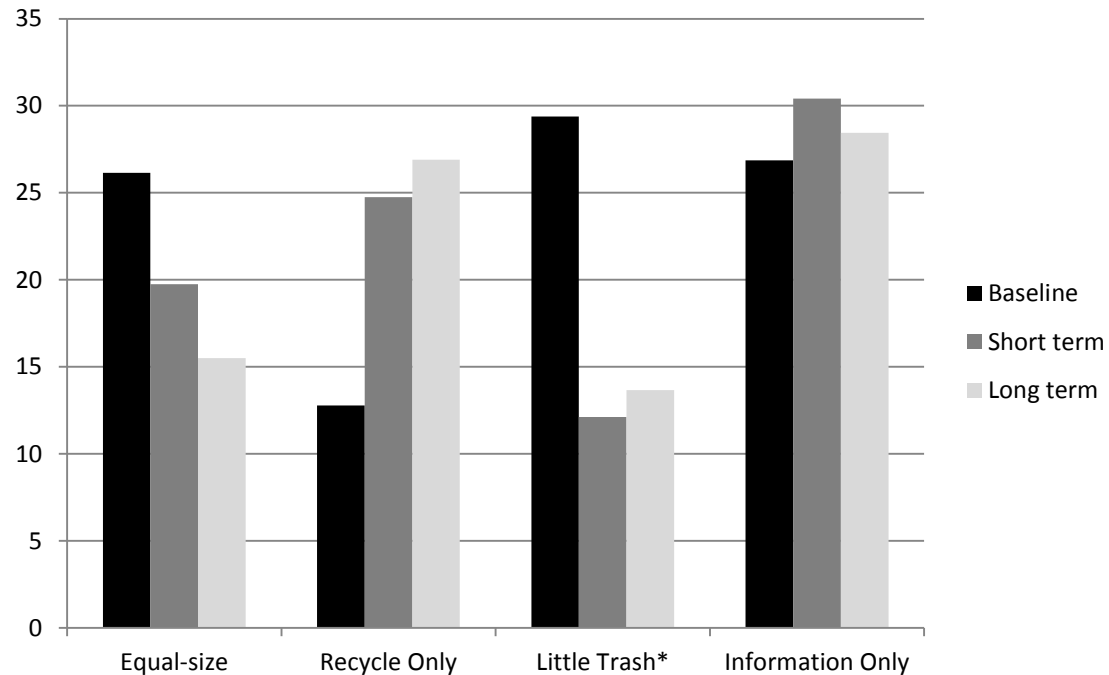


Note: Weight of Recyclables divided by Total Weight of Material Collected in Recycling bin

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Percentage of Recyclables in Trash

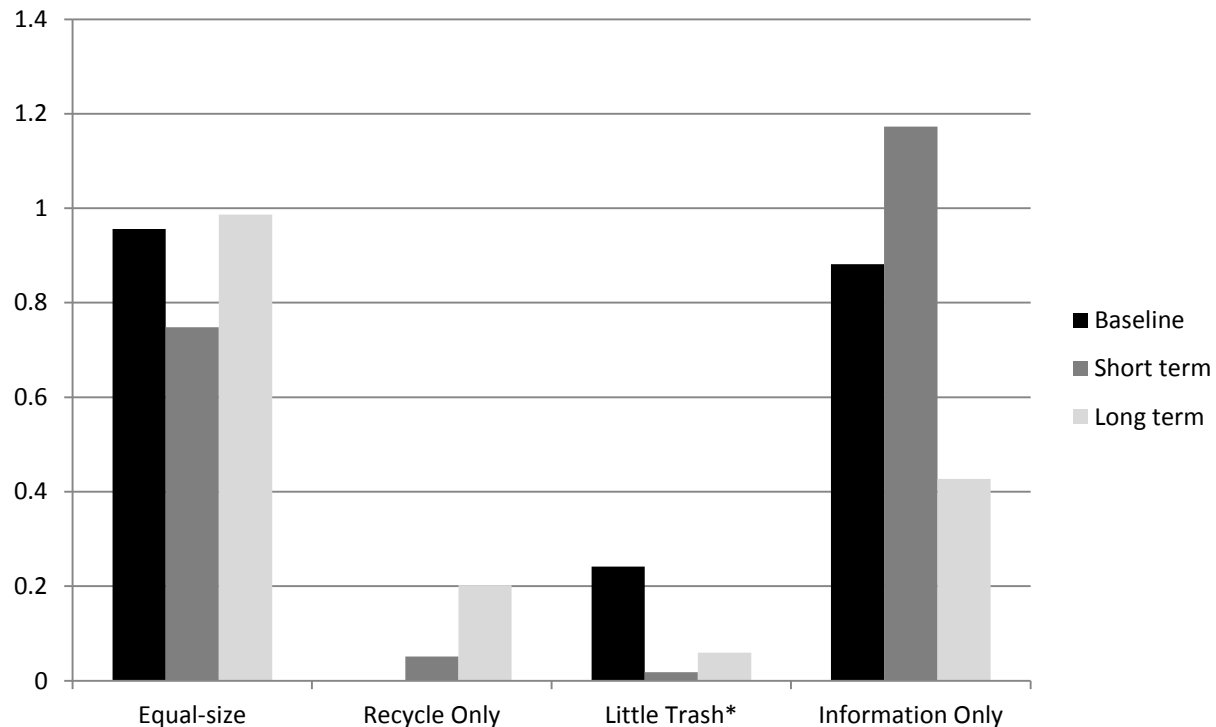
Fewer **recyclables** were in the trash for the “Little trash” condition. Same trend for Equal Size. Trend for increase in recycling only.



Note: Weight of **Recyclables** divided by Total Weight of Material Collected in Trash bin

Average Office Paper Weight in Trash

Less office paper was in the trash bin for the “Little trash” condition.



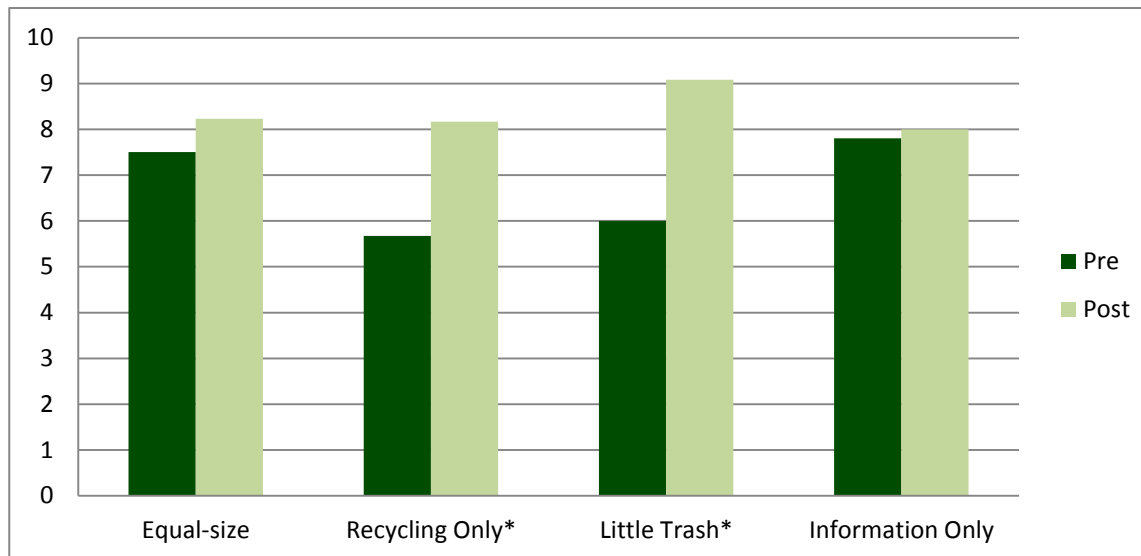
Employee Survey Results



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General Office Recycling Knowledge

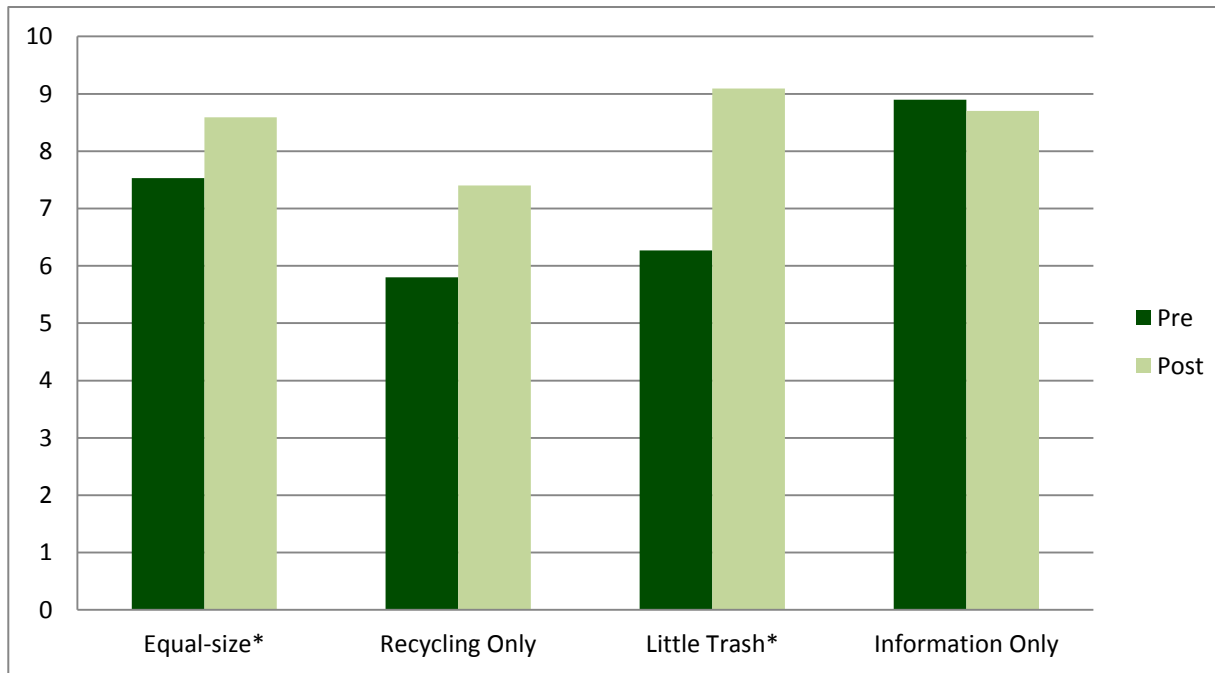
Participants reported how knowledgeable they were about recycling in their office on a scale from “0” (not at all knowledgeable) to “10” (very knowledgeable).



* indicates statistically significant change

General Office Recycling Behavior

Participants reported how often they properly dispose of recyclable items while in the office on a scale from “0” (never) to “10” (always).



* indicates statistically significant change

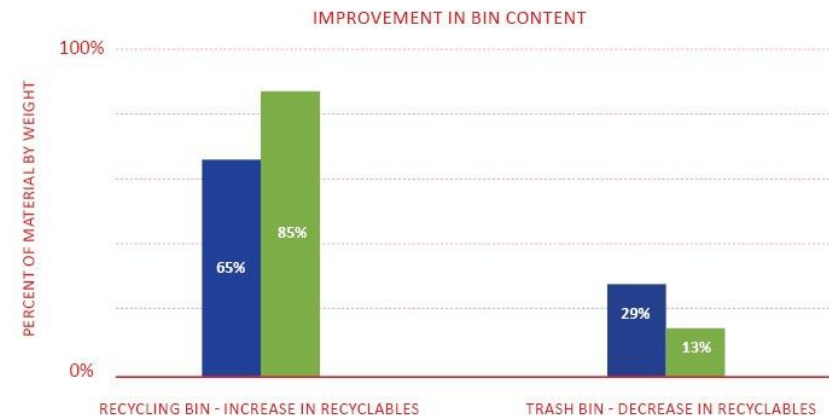
Conclusions and Recommendations



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Little Trash - Most Successful

- Desirable significant changes
 - Increased correct disposals
 - Decreased recyclables in the trash from 29% to 13%
 - Office paper in trash reduced to practically nothing
 - Decreased recycling bin contamination 20%



□ Positive experience

- “[The thing I did differently because of Recycling at Work was...] I pay more attention when disposing of anything.”
- “[One thing I particularly liked about the Recycling at Work project was the...] different sized bins really helped.”

Equal Size - Fairly Successful

❑ Some desirable changes

- ❑ Kept trash out of the recycling
 - ❑ No significant decrease in recyclables in the trash
 - ❑ No significant change in the weight of paper in trash
 - ❑ Decreased recycling bin contamination 17%
- Positive experience, shown through employee survey ratings and comments:
 - “[The thing I did differently because of Recycling at Work was...] I recycled more often and with more confidence since I now have a better understanding of what to recycle and what not to [recycle].”



Recycling Only-Least Successful

- Poor results
 - Undesirable or neutral audit results
 - 14% increase in recyclables in the trash
 - No change in weight of office paper in the trash
 - No change in recyclables in the recycling
- Neutral to Negative experience
 - “[One thing I would change about Recycling at Work is...] [I] need to have both trash cans in my office, not just a recycle bin. For example, I eat a banana every day and having to walk the peel to the kitchen room is a nuisance.”



Information only

- No behavioral changes
- Some changes in knowledge
- Insufficient to change behavior
 - Necessary to go beyond



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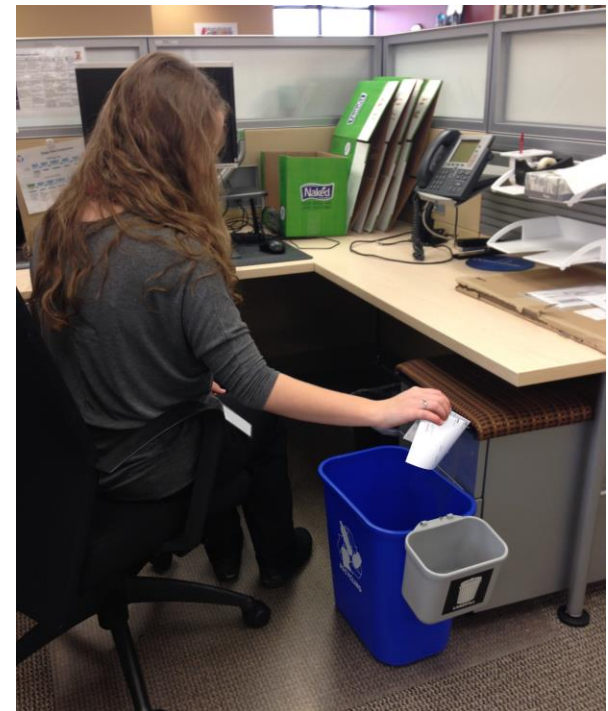
Recommendations

1. Make recycling easy

- Include paired bins in the common areas
- Keep signage simple
- Message on, or near, the recycling bin about common items

2. Use effective placement

- Co-locate recycling and trash at the workstation
- Use the Little Trash set-up
 - If not feasible, use Equal Sized set-up



Recommendations

3. Be consistent

- One program throughout the building
- Same colors, images, messages, placement
 - Decreases confusion for cleaning staff
 - Decreases confusion for employees



RECYCLING

These are some common recyclable items in your office.
Please put these items in a recycling bin:

- Office Paper
- Plastic Beverage Bottles
- Aluminum Beverage Cans
- Frozen Dinner Boxes
- Soup Cans

LANDFILL

These are some common non-recyclable items in your office.
Please put these items in a landfill bin:

- Food Scraps
- Bubble Wrap
- Plastic Eating Utensils
- Used Paper Plates
- Paper Towels

**Please note that these are some common items. For a more comprehensive list of recyclable and non-recyclable items see your building manager, or your waste hauler's website.

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Resources

- See <http://recyclingatwork.org> for more information, tools, report and fact sheet
- Contact local solid waste facility for locally relevant information



TV Commercials



Superhero :30



Smile :30

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Questions?

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